



3-2 Solving Systems Algebraically

Substitution and Elimination

Oct 27-9:19 AM

Oct 27-8:56 AM

Substitution

$$\begin{aligned}
 x + 4y &= 26 \\
 x - 5y &= -10 \\
 x &= 5y - 10 \\
 5y - 10 + 4y &= 26 \\
 9y - 10 &= 26 \\
 9y &= 36 \\
 y &= 4 \\
 x &= 5(4) - 10 \\
 x &= 10 \\
 \boxed{(10, 4)}
 \end{aligned}$$

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Substitution

$$\begin{aligned}
 3x + y &= 18 \\
 4x + 5y &= 13 \\
 y &= 18 - 3x \\
 4x + 5(18 - 3x) &= 13 \\
 4x + 90 - 15x &= 13 \\
 -11x + 90 &= 13 \\
 -11x &= -77 \\
 x &= 7 \\
 \boxed{(7, -3)}
 \end{aligned}$$

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Elimination

$$\begin{array}{l} x + 2y = 10 \\ (x + y = 6) \cdot (-1) \end{array}$$

$$\begin{array}{r} x + 2y = 10 \\ -x - y = -6 \\ \hline y = 4 \end{array} \quad (2, 4)$$

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Elimination

$$\begin{array}{l} (2x + 3y = 12) \cdot 2 \\ (5x - 2y = 11) \cdot 3 \end{array}$$

$$\begin{array}{r} 4x + 6y = 24 \\ 15x - 6y = 33 \\ \hline 19x = 57 \\ x = 3 \end{array} \quad (3, 2)$$

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Elimination

$$\begin{array}{l} (-3x + 5y = 12) \cdot 2 \\ 6x - 10y = -21 \\ -6x + 10y = 24 \end{array}$$

$$\begin{array}{l} 0 = 3 \\ \text{False } \emptyset \end{array}$$

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Elimination

$$\begin{array}{l} (3x + 2y = 9) \cdot (-3) \\ 9x + 6y = 27 \\ -9x - 6y = -27 \end{array}$$

$$\begin{array}{l} 0 = 0 \\ \text{True} \end{array}$$

∞ # of sol's
on the line
 $3x + 2y = 9$

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Block day cw
p113 #s13, 15, 20, 23
p120 #s 13, 17, 19 ,23, 29, 39, 40

HW
p120-121
13, 14, 17, 19, 23, 24, 29, 31, 34, 39,
40, 45-47

Oct 23-1:16 PM

Oct 27-9:03 AM